Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE ABSTRACT:

Amend the abstract to read as follows:

A closed loop apparatus (1) for extracting biomass includes an evaporator (42) and a condenser (43) directly connected to one another, without an intermediate compressor. An optional pump (14) moves liquid solvent between the evaporator (42) and [compressor] condenser (43) and provides a hydrostatic head for the closed loop circuit.

IN THE SPECIFICATION

Amend page 2, paragraph 0009 to read as follows:

[0009] It is possible to carry out biomass extraction using other solvents, such as chlorofluorocarbons [("CFC'")] ("CFC's") or hydrochloroflurocarbons ("HCFC's") and/or mixtures of solvents. CFC's and HFC's are not approved for biomass extractions whose products are intended e.g. for food or medicine uses.

Amend pages 5-7, paragraph 0022 to read as follows:

[0022] In other embodiments of the invention the evaporator and condenser are contained within the same vessel, sometimes referred to as a "short-path still". Preferred arrangements of the short-path still type of vessel are described and claimed in published International Application No. PCT/GB00/03390, filed September 4, 2000, which is incorporated herein by reference and are embodied in (1) in apparatus in accordance with the first aspect described above wherein the evaporator and condenser are constituted as parts of the same evaporator/condenser vessel, and the extraction vessel is a discrete component operatively connected to the evaporator/condenser vessel by a pipework circuit; (2) an apparatus in accordance with embodiment (1) above wherein the evaporator/condenser vessel is a generally closed, hollow vessel having lower and upper interior zones spaced from one another, the lower zone including the evaporator and the upper zone including the condenser; (3) an apparatus in accordance with embodiment (2) above wherein the lower zone includes a feed thereinto for liquid solvent/extract mixture;

a heat source for heating the liquid solvent/extract mixture to evaporate the solvent from the extract; and a drain for draining liquid extract out of the condenser/evaporator vessel; (4) an apparatus in accordance with embodiment (3) above wherein the heat source is or includes a heating jacket or a member secured onto or surrounding a portion of the exterior of the condenser/evaporator vessel adjacent or corresponding to the lower zone; (5) an apparatus in accordance with embodiment (2) above or any embodiment incorporating the same wherein the upper zone includes a cooler that cools one or more surfaces in the upper zone; a receptacle lower than the surface and located to catch liquid solvent, condensed onto the surface, that falls from [th] the surface under gravity; and a drain for draining liquid solvent from the receptacle; (6) an apparatus in accordance with embodiment (5) above wherein the cooler includes a jacket or member secured onto or surrounding a portion of the exterior of the vessel adjacent or corresponding to the upper zone, an interior wall of the upper zone, cooled by the cooling jacket or member, being or including the said surface and the receptacle including a tray protruding from the said wall inside the vessel; (7) an apparatus in accordance with embodiment (6) above wherein the upper zone is of cylindrical cross-section and the tray is an [annular] annulus protruding from and extending about the interior wall of the upper zone; (8) an apparatus in accordance with embodiment (5) above, wherein the cooler member includes a cooling member within the upper zone; the cooling member including the said surface; and the receptacle underlying the cooling member; (9) an apparatus in accordance with any of the embodiments (5), (6), (7), (8) above wherein the cooling jacket or member includes one or more internal passage permitting the flow therethough of a cooling fluid; (10) an apparatus in accordance with any of the embodiments (5), (6), (7), (8), (9) above wherein the drain passes through the wall of the evaporator/condenser vessel and wherein the closed loop circuit includes the lower zone, the upper zone and the drain, operatively connected in series; (11) an apparatus in accordance with embodiment (2) above or any embodiment incorporating the same wherein the lower and upper zones are spaced from one another by a gas permeable, generally liquid impermeable barrier; (12) an apparatus in accordance with embodiment (3) above wherein the heat source is or includes a heating member within the condenser/evaporator vessel; (13) an apparatus in accordance

with embodiment (1) above or any embodiment incorporating the same, including a direct heat pump for evaporating and condensing the solvent.

Amend the pages 17-18, paragraph 0086 to read as follows:

[0086] If the evaporator and condenser are considered together as a closed system, and there are no valves in the pipework between the vessels, they can be thought of as forming a single containment volume, in which a fixed maximum mass of solvent can be present. This mass is determined by the charge of solvent put into the system. If the evaporator and condenser are isolated from any other vessel then, if the heat supplied by the heating system is not balanced by the heat removed through the cooling system and through natural heat losses, [then] the pressure will rise in the two vessels. This pressure rise will take place at constant density (since no mass can enter or leave the fixed volume) and it will initially take place in the saturated, two-phase region of the solvent's thermodynamic property map. The pressure will follow a line of constant density ("isochore") through the two-phase region as shown in Figure 6.

IN THE CLAIMS:

Amend claim 1 to read as follows:

1. (Once amended) Apparatus for extracting biomass comprising a closed loop circuit including, operatively connected in series, an extraction vessel, for containing biomass, that permits the solvent or a solvent mixture to contact biomass to effect extraction:

an evaporator for separating solvent and biomass extract from one another;

a condenser for condensing solvent evaporated in the condenser; and

a means for moving liquid solvent from the condenser to the extraction vessel to the evaporator, without compressing a vapour phase;

<u>wherein the condenser is at a greater altitude than the extraction vessel and the evaporator, whereby the means for moving liquid solvent between the condenser and the extraction vessel includes the hydrostatic head between the condenser and the extraction vessel; and</u>

<u>wherein the outlet of the condenser includes a liquid lute operatively connected in series therewith</u>.

Amend claim 19 to read as follows:

19. (Once amended). A method of extracting biomass comprising the steps of:

loading a bed of biomass into an extraction vessel having an inlet and an outlet and forming part of a closed loop circuit including, operatively connected in series, the extraction vessel, an evaporator and a condenser;

contacting the biomass with a solvent flowing around the closed loop, whereby biomass extract becomes entrained with the solvent;

moving the solvent around the closed loop to the evaporator and evaporating the solvent to separate the solvent and the extract from one another;

moving the vaporised solvent around the closed loop to the condenser and condensing it to liquid form; [and]

moving the condensed solvent around the closed loop <u>via a liquid lute operatively connected in series with the condenser</u> to the extraction vessel for further contact with biomass therein, wherein the solvent in vapour form is generally uncompressed; <u>and</u>

<u>wherein the method includes the step of allowing the condensed, liquid solvent to move under gravity between the condenser and the extraction vessel</u>.